

# **SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT**

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## **Draft Staff Report Proposed Amended Rule 1420.1 – Emission Standards for Lead and Other Toxic Air Contaminants from Large Lead-Acid Battery Recycling Facilities**

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## INTRODUCTION

Rule 1420.1 – Emission Standards for Lead from Large Lead-acid Battery Recycling Facilities was adopted on November 5, 2010 in order to help ensure attainment of the 2008 National Ambient Air Quality Standards (NAAQS) for lead of  $0.15 \mu\text{g}/\text{m}^3$ . Rule 1420.1 controls emissions of lead and other toxic air contaminants from large lead-acid battery recycling facilities. The rule also requires large lead-acid battery recyclers to meet a lead ambient air concentration of  $0.150 \mu\text{g}/\text{m}^3$ , averaged over any 30 consecutive days, which is more stringent than the lead NAAQS, which has a longer averaging period of a rolling three month average. In addition, Rule 1420.1 includes housekeeping provisions such as regular cleaning periods, inspections and proper handling of lead containing dust and waste.

In January 2014 the SCAQMD staff reported to the Governing Board on the review of two studies that examined the technical, economic, and physical feasibility of achieving a total facility mass lead emission rate of 0.003 lb/hour from all lead point sources. Based on elevated levels of lead found in soil and surface dust by the Department of Toxic Substances Control (DTSC), the Governing Board directed staff to begin rulemaking to consider lowering the lead point source emission rate and possibly other revisions to reduce the further accumulation of lead dust in the surrounding communities. Proposed Amended Rule (PAR) 1420.1 would, among other things, lower the ambient lead concentration limit and the point source emission rate for lead.

## PUBLIC PROCESS

PAR 1420.1 is being developed through a public process. A PAR 1420.1 Working Group was formed to provide an opportunity to discuss the proposed rule in greater detail and provide input to the SCAQMD staff throughout the rule development process. The working group was composed of a variety of stakeholders including representatives and consultants for the regulated industry; the DTSC and other agency representatives; environmental and community representatives; and other interested parties who met with SCAQMD staff to discuss elements of the proposed rule in more detail. The Working Group, which is open to the general public, met twice in October and once in November. In addition, a Public Workshop was held on October 30, 2014 to present the proposed rule and receive public comment. A second Public Workshop was held November 19, 2014.

The SCAQMD staff maintains a PAR 1420.1 rule development webpage that includes Working Group meeting dates and times, presentations for the Working Group meetings, and other upcoming meetings and dates. The PAR 1420.1 webpage can be found at: <http://www.aqmd.gov/rules/proposed.html#1420.1>.

## BACKGROUND

### Lead

Lead is deemed a carcinogenic toxic air contaminant (TAC) by the Office of Environmental Health Hazard Assessment (OEHHA). Chronic health effects include nervous and reproductive system disorders, neurological and respiratory damage, cognitive and behavioral changes, and hypertension. Exposure to lead can also potentially increase the risk of contracting cancer or result in other adverse health effects. Lead has been classified as a probable human carcinogen by the International Agency for Research on Cancer, based mainly on sufficient animal evidence,

and as reasonably anticipated to be a human carcinogen by the U.S. National Toxicology Program. Young children are especially susceptible to the effects of environmental lead because their bodies accumulate lead more readily than do those of adults, and because they are more vulnerable to certain biological effects of lead including learning disabilities, behavioral problems, and deficits in IQ.

Under the federal Clean Air Act, lead is classified as a “criteria pollutant.” Lead has observed health effects at ambient concentrations. The U.S. EPA has thoroughly reviewed the lead exposure and health effects research, and has prepared substantial documentation in the form of a Criteria Document to support the selection of the 2008 NAAQS for lead. The Criteria Document used for the development of the 2008 NAAQS for lead states that studies and evidence strongly substantiate that lead concentrations in a range of 5-10 µg/dL, or possibly lower, could likely result in neurocognitive effects in children. The report further states that “there is no level of lead exposure that can yet be identified with confidence, as clearly not being associated with some risk of deleterious health effects.”<sup>1</sup>

### **Lead National Ambient Air Quality Standard**

In October 1978, the U.S. Environmental Protection Agency (EPA) promulgated the first primary and secondary NAAQS for lead under Section 109 of the Clean Air Act. Both primary and secondary standards were set at a level of 1.5 µg/m<sup>3</sup> averaged over a calendar quarter. Primary standards set limits to protect public health, including the health of “sensitive” populations such as asthmatics, children, and the elderly. Secondary standards set limits to protect public welfare, including protection against visibility impairment, damage to animals, crops, vegetation, and buildings.

On October 15, 2008, the EPA amended both the primary and secondary NAAQS for lead from a level of 1.5 µg/m<sup>3</sup> to 0.15 µg/m<sup>3</sup> averaged over a rolling 3-month period, and made changes to monitoring and reporting requirements. On December 31, 2010, the EPA designated a portion of Los Angeles County as nonattainment for the 2008 NAAQS for lead based on monitored air quality data from 2007-2009 that indicated a violation of the NAAQS due to, and near, two large lead-acid battery recycling facilities. In May of 2014, the U.S. EPA released its “Policy Assessment for the Review of the Lead National Ambient Air Quality Standards”, reaffirming the primary (health-based) and secondary (welfare-based) staff conclusions regarding whether to retain or revise the current standards. In January 2015 the U.S. EPA announced that the ambient lead concentration standard of 0.15 µg/m<sup>3</sup> averaged over a rolling 3-month period would remain unchanged.

### **Rule 1420.1 Regulatory History**

Large lead-acid battery recycling facilities were originally regulated under Rule 1420 - Emission Standards for Lead which was adopted in 1992 and is applicable to any facility that uses or processes lead-containing materials. In November 2010, Rule 1420.1 was adopted to establish additional requirements for large (facilities that process more than 50,000 tons of lead annually) lead-acid battery recycling facilities, namely Exide Technologies located in Vernon, and Quemetco Inc. located in the City of Industry, to ensure compliance with the NAAQS. Rule

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<sup>1</sup> Environmental Protection Agency, Office of Research and Development, “Air Quality Criteria Document for Lead, Volumes I-II,” October 2006.

1420.1 included an ambient lead concentration limit of  $0.150 \mu\text{g}/\text{m}^3$  and a point source limit of 0.01 lb/hr from any single source and 0.045 lb/hr from all point sources. Additionally, the rule included a series of housekeeping provisions to further control fugitive lead emissions. During the rulemaking process there was testimony from one of the affected facilities requesting to lower the total facility lead mass emission rate limit from point sources from 0.045 lb/hr to 0.003 lb/hr. Air dispersion modeling indicated that controlling lead point source emissions to 0.01 lb/hr or less for each point source and to 0.045 lb/hr or less for total point sources, and strict adherence to the housekeeping provisions of Rule 1420.1, would achieve compliance with the ambient lead concentration limits of  $0.150 \mu\text{g}/\text{m}^3$ . Because of the air dispersion modeling and more stringent housekeeping and maintenance provision in the rule, the Governing Board decided to retain staff's recommended limits of 0.045 lb/hr or less for total point sources and 0.01 lb/hr or less for each point source. In addition, the Governing Board strengthened the rule by requiring facilities to submit a compliance plan identifying additional lead reductions strategies and a curtailment plan and a study assessing the economic, technical, and physical feasibility of achieving a lower point source emission limit of 0.003 lb/hour, if the ambient lead concentration exceeded  $0.120 \mu\text{g}/\text{m}^3$  over a 30 day rolling average.

In March 2013, the approved AB 2588 Health Risk Assessment for Exide Technologies reported a Maximum Individual Cancer Risk of 156 in one million, a non-cancer chronic HI of 63, a non-cancer acute HI of 3.8, and a cancer burden of 10. Arsenic, benzene, and 1,3-butadiene emissions were the main contributors to the high cancer risk. As a result, on January 10, 2014, Rule 1420.1 was amended to include an arsenic ambient concentration limit of  $10.0 \text{ ng}/\text{m}^3$  averaged over a 24-hour period and point source emission limits for arsenic, benzene, and 1,3-butadiene. Curtailment provisions for lead and arsenic and requirements for installation and operation of differential pressure monitors were also included in the amendments.

In March 2014, Rule 1420.1 was amended to include requirements for the large lead-acid battery recycling facilities to participate in a multi-metals continuous emissions monitoring program with the SCAQMD.

### **Lead Emission Rate Feasibility Studies**

By 2011, both large lead-acid battery recycling facilities, Quemetco and Exide, had exceeded the  $0.120 \mu\text{g}/\text{m}^3$  ambient lead concentration Compliance Plan limit and submitted feasibility studies. Quemetco's exceedances were noteworthy as they occurred despite having a lead mass emission rate limit of less than 0.003 lb/hr from their point sources. This indicates that some portion of the exceedances might be attributed to fugitive emissions from the facilities. At the January 2014 Governing Board Hearing, staff presented the two feasibility studies of lowering lead point source emissions subject to Rule 1420.1. Quemetco's study included source tests from 2011 indicating that a total facility mass lead emission rate of 0.003 lb/hr was already being met with their existing air pollution control systems. Exide's feasibility study stated that existing controls represented greater than 99% reductions in point source lead emissions and that further emission reduction measures should be focused on fugitive emission reductions. Exide's study stated that ambient air quality modeling indicated that "additional stack emissions reductions are not expected to further reduce ambient lead concentrations." Exide's study also concluded that lowering lead point source emissions to 0.003 lb/hr were not technically, economically, or physically feasible.

In the staff findings and recommendations on the feasibility studies, staff believed that the January 2014 proposed amendments to Rule 1420.1 to reduce arsenic and other toxic organics would result in concurrent lead emission reductions. Staff had also reported that since the implementation of Rule 1420.1 and its point source emission limit of 0.045 lb/hour, although there had been exceedances of the Rule 1420.1 lead ambient limit of  $0.150 \mu\text{g}/\text{m}^3$  averaged over any 30 consecutive days, there had not been any exceedances of the lead NAAQS of  $0.15 \mu\text{g}/\text{m}^3$  over a rolling 3-month average. This was a good indication that the point source emission limit of 0.045 lb/hour was sufficient to ensure compliance with the lead NAAQS and also an indicator that the spikes in ambient lead concentrations were likely attributed to activities related to fugitive emissions instead of point source emissions.

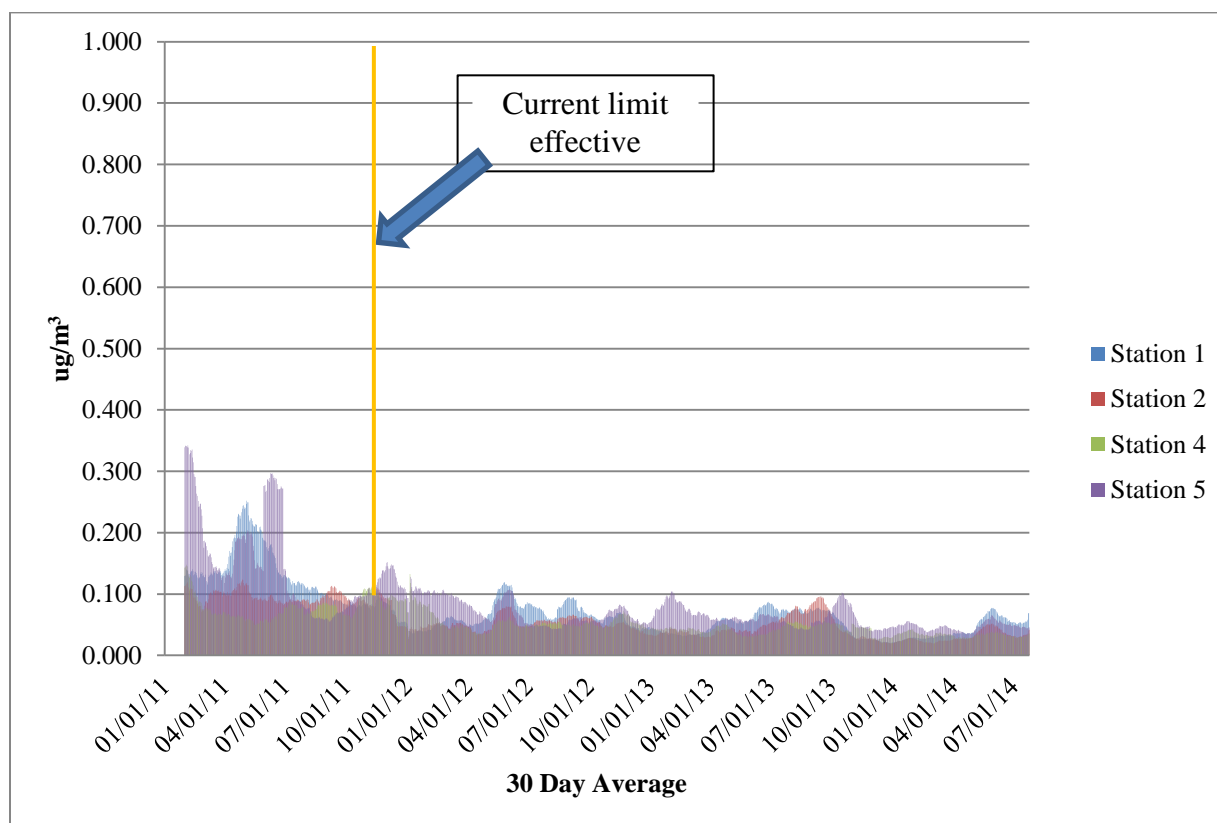
In December 2013, staff received letters from DTSC to Exide explaining that DTSC had conducted soil samples and found elevated levels of lead in surface dust and soil samples in and around the Exide facility. DTSC had commented that the lead dust is likely an accumulation of lead from decades of use, as well as fragmentation from handling and erosion. As a result of DTSC's findings, staff was concerned that lead contained in surface dust and soil can be re-entrained into the air impacting people that live and work in the surrounding community. SCAQMD staff recommended and was directed by the Governing Board to begin rulemaking to consider lowering the lead point source emission rate and possibly other revisions to reduce the further accumulation of lead dust to the surrounding communities.

### **Lead Ambient Concentration**

Blood lead is used as a biomarker of lead exposure by health agencies and in epidemiological and toxicological studies. Lead in ambient air contributes to lead in blood by multiple exposure pathways by both inhalation and ingestion. The relationship between ambient air lead and blood lead is the primary methodology in determining the health impacts coming from lead air pollution sources. Additionally, ambient lead is the best measure of all the lead air pollution coming from a facility. The measure of ambient lead concentration captures all potential sources: lead emitted directly through exhaust stacks (point sources), fugitive lead emissions not captured by control equipment and accumulated lead in dust and soil in the surrounding area.

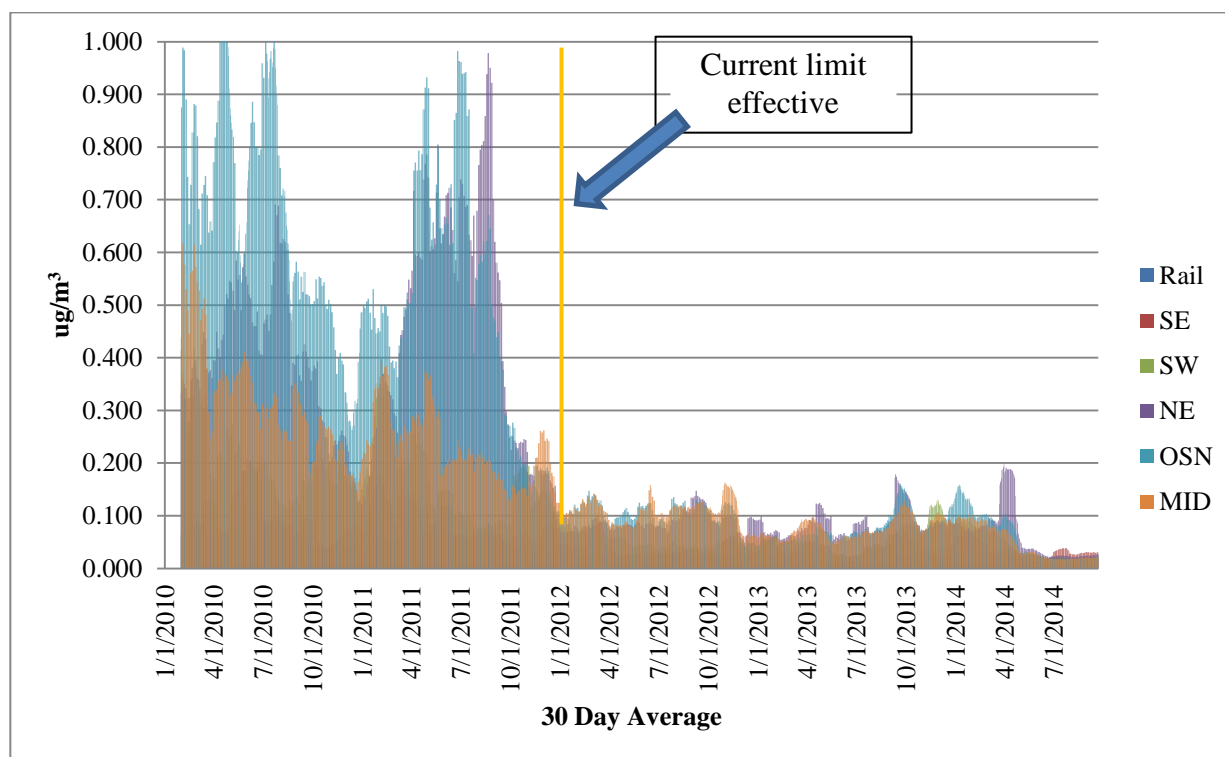
Rule 1420.1 required large lead-acid battery recycling facilities to meet the  $0.150 \mu\text{g}/\text{m}^3$  ambient lead concentration, averaged over any 30 consecutive days, beginning January 1, 2012. Based on monthly averages of ambient monitoring data, there has been a reduction of ambient lead emissions at both Quemetco and Exide. Figures 1A and 1B below illustrate the reductions from Quemetco and Exide respectively.

**Figure 1A – Quemetco Fence Line Monitoring ( $\mu\text{g}/\text{m}^3$ )  
(30 Day Averages)**





**Figure 1B - Exide Fence Line Monitoring ( $\mu\text{g}/\text{m}^3$ )  
(30 Day Averages)**



## PROPOSED AMENDED RULE 1420.1

Proposed Amended Rule (PAR) 1420.1 would include revisions to the lead ambient air concentration limit, frequency of ambient lead samples, point source emission rates, compliance plan and curtailment thresholds, housekeeping and maintenance provisions, additional reporting requirements and other administrative changes detailed below.

### Ambient Air Concentration Limit (Subdivision (d))

PAR 1420.1 proposes to lower the lead ambient air concentration limit from  $0.150 \mu\text{g}/\text{m}^3$  to  $0.110 \mu\text{g}/\text{m}^3$  averaged over any 30 consecutive days as specified in subparagraph (d)(1), effective January 1, 2016. The proposed amended rule would further reduce the lead ambient air concentration limit to  $0.100 \mu\text{g}/\text{m}^3$  effective January 1, 2017. Prior to January 1, 2016, the lead ambient concentration of  $0.150 \mu\text{g}/\text{m}^3$  will remain in effect as shown in Table 1 below.

**Table 1 PAR 1420.1 Proposed Lower Ambient Lead Limit**

<b>Effective Date</b>	<b>Ambient Air Concentration of Lead, micrograms per cubic meter (<math>\mu\text{g}/\text{m}^3</math>), averaged over any 30 days</b>
Prior to January 1, 2016	$0.150 \mu\text{g}/\text{m}^3$
<i><b>January 1, 2016 – December 31, 2016</b></i>	<i><b><math>0.110 \mu\text{g}/\text{m}^3</math></b></i>
<i><b>On and after January 1, 2017</b></i>	<i><b><math>0.100 \mu\text{g}/\text{m}^3</math></b></i>

The objective of the proposed requirement is to be more protective of public health by limiting the lead concentration in the ambient air. By limiting the ambient air lead concentration to the lowest level feasible, it will further reduce the accumulation of lead dust and reduce lead exposure from large lead-acid battery recyclers to the surrounding community. Lowering the ambient lead concentration is not inconsistent with studies that USEPA reviewed indicating that lower ambient lead concentrations would result in less impacts to children. According to USEPA, the assessment of the currently available studies continues to recognize a non-linear relationship between blood lead and effects on cognitive function, with a greater incremental effect (greater slope) at lower relative to higher blood lead levels.<sup>1</sup> Chronic health effects include increased risk of cancer, nervous and reproductive system disorders, neurological and respiratory damage, cognitive and behavioral changes, and hypertension. In addition, young children accumulate lead more readily than do those of adults are more vulnerable to certain biological effects of lead including learning disabilities, behavioral problems, and deficits in IQ.

Because of the primary, secondary, tertiary and even quaternary controls at Quemetco and Exide, combined with the fugitive nature of lead emissions associated with lead-acid battery recycling operations, stack emissions are not the main contributors to lead at all the ambient monitors. In Quemetco's case, according to emission modeling, stack emissions represent 2% or less of the

<sup>1</sup> U.S. EPA's "Policy Assessment for the Review of the Lead National Ambient Air Quality Standards," Environmental Protection Agency, May 2014

ambient lead concentrations found on the monitors. For Exide, stack emissions represent between 8% and 65% of ambient lead concentrations at the various monitors, according to source testing conducted in 2010 and 2012. As discussed below, Exide has installed additional particulate controls since then and is in the process of installing controls for arsenic that are expected to have concurrent lead emission reductions from point sources. These additional enhancements are expected to also reduce the contribution from point sources to the overall ambient concentration. Staff believes that reducing the ambient lead concentration limit will minimize further accumulation of lead from both point and fugitive sources. DTSC is in the process of requiring clean-up of the lead-containing soil. During the clean-up process, the proposed limit, along with implementation of housekeeping and specific requirements to minimize fugitive emissions during specific maintenance activities, will minimize lead emitted during soil disturbances and/or excavation. The ambient concentration limit will further minimize the rate of accumulation of lead dust.

#### **Lead Point Source Emission Rate (Subdivision (f))**

PAR 1420.1 will lower the lead point source emission limit. Staff is proposing to reduce the total facility mass lead emissions from all lead point sources under subparagraph (f)(1)(A) from 0.045 lb/hour to 0.023 lb/hour, effective January 1, 2016. Based on source testing conducted over the past six years, Quemetco can meet the proposed limit. Exide can also meet the proposed reduced lead point source emission limit based on source test results from testing conducted in 2010 and 2012 that was used in their 2013 approved AB2588 Health Risk Assessment. As seen in Table 2 below the combined point source emissions from Exide were just under 0.023 lb/hour.

**Table 2 – Exide Health Risk Assessment Source Test Rates**

<b>Associated Control Device at Exide</b>	<b>2010 Lead Emission Rate (lb/hr)</b>	<b>2012 Lead Emission Rate (lb/hr)</b>	<b>Lead Emission Rate (lb/hr)</b>
RMPS Scrubber	0.000358	---	0.000358
Material Handling BH	0.00115	---	0.00115
Soft Lead BH	0.000851	---	0.000851
Hard Lead BH	0.00102	0.0018	0.0018
Feed dryer BH	0.0105	---	0.0105
Neptune Scrubber	0.000175	0.000819	0.000819
North Torit BH	0.00141	---	0.00141
South Torit BH	0.0036	---	0.0036
MAC BH	0.000572	---	0.000572
<b>All Devices at Exide</b>			<b>0.02106</b>

Since the source testing conducted in 2010 and 2012, additional controls have been installed at Exide, including the modification/ installation of HEPA filtration on the control systems serving two furnace feed room areas. To ensure compliance with Rule 1420.1 emission limits and implementation of their Rule 1402 Risk Reduction Plan, Exide is in the process of installing a series of air pollution controls, including: a new scrubber on the blast furnace air pollution control system; a repurposed baghouse and a new regenerative thermal oxidizer on the blast furnace charging enclosure; a new regenerative thermal oxidizer to be placed on the reverberatory furnace feed dryer stack; replacement of the reverbatory feed mechanism;

enclosure of the blast furnace charge area; installation of charge level and temperature sensors in the blast furnace; changes to hoods and ducting; and installation of a secondary HEPA filtration system downstream of the hard lead ventilation system baghouse and MAC feed room baghouse. The added pollution control equipment is intended to reduce arsenic, benzene and 1,3 butadiene emission but will also further reduce lead emissions. The proposed lead point source emission rate limit will codify the reductions that are known to be feasible. The extent of the further reductions will not be known until source tests are conducted to confirm the actual lead point source emission rates.

### **Regulatory Approach**

PAR 1420.1 incorporates a holistic regulatory approach that addresses point and fugitive lead emissions, as well as other toxic air contaminants. PAR 1420.1 is lowering both the point source emission rate and the ambient lead concentration limit. Lowering the point source emission rate will reduce the ambient lead concentration. Lowering the ambient lead concentration limit will ensure point and fugitive sources are well controlled. Based on the level of controls that have been installed at both facilities, fugitive emissions contribute the majority of emissions that are captured at the ambient monitors for both facilities. Based on implementation of Rule 1420.1, staff has found that the best control of fugitive emissions is use of total enclosures and strict adherence to housekeeping and maintenance provisions. The best measure of the efficacy of these measures is the ambient monitors. Increasing the frequency of monitoring the ambient lead and arsenic concentration from one in three days to daily will provide even greater assurance that housekeeping and maintenance activities are being consistently implemented, and all lead emissions are well controlled. In addition, lowering the ambient concentration establishes a prescribed limit, but allows each facility to identify the appropriate mix of point and fugitive control strategies to achieve that limit.

Lowering the ambient concentration lead limit to  $0.100 \mu\text{g}/\text{m}^3$  combined with daily monitoring will ensure that lead emissions from all sources, point and fugitive sources, are well controlled. Rule 1420.1 requires that ambient monitors be placed where the maximum ground level concentration is expected and that samples are collected over a 24-hour period. As discussed above, PAR 1420.1 will increase the frequency of sampling to daily thereby providing continuous ambient lead and arsenic data.

Staff is not recommending, at this time, to reduce the lead point source emission limit to 0.003 lb/hour. The lead and arsenic pollution control strategy that is being implemented at Exide has the potential of meeting a low lead point source emission rate, but it is not certain that it can meet a lead point source emission limit of 0.003 lb/hour. As discussed above, the additional pollution controls that have been installed as part of Exide's Compliance Plan and the additional arsenic pollution controls that are in the process of being installed at Exide are expected to further reduce the overall lead emission rate. After the pollution controls are installed and source testing is conducted, staff can evaluate the feasibility of further reducing the lead point source emission rate.

### **Compliance Plan (Subdivision (g))**

The threshold for the Compliance Plan submittal required in subdivision (g) will be reduced to reflect the proposed ambient lead concentration limits which drops to  $0.110 \mu\text{g}/\text{m}^3$  in January

2016 and of  $0.100 \mu\text{g}/\text{m}^3$  in January 2017. The effective date of the Compliance Plan will be the same as the effective date of the proposed reduction in the ambient lead concentration limit. This will require the facility with exceedances to identify additional measures to ensure the facility can meet the ambient lead concentration limit.

### **Housekeeping and Maintenance Requirements (Subdivision (h) and (i))**

The definition for Maintenance Activity is proposed to be amended to include soil disturbances during sampling and remediation or other activities where soil is moved, removed or stored. Several housekeeping and maintenance provisions included in dust mitigation plans, required by the rule when facilities initially exceed the ambient lead concentration limit, have been proposed for inclusion in the rule. They reflect best management practices intended to minimize fugitive emissions that occur on facility grounds. The following measures are proposed:

- All trash or debris outside of a total enclosure containing lead or arsenic shall be placed in covered refuse containers that are free of dust or liquid leaks. The cover shall remain in place at all times except when trash or debris is placed into or removed from the refuse containers. This provision applies only to trash or debris within the facility.
- Posting of signs indicating a facility-wide vehicle speed limit of five miles per hour.
- Outside work stoppage if instantaneous wind speeds exceed 20 miles per hour.
- Concrete or asphalt cutting conducted outside of a total enclosure shall be performed under 100 percent wet conditions where there is a continuous flow of water applied to the cutting activity
- Grading of soil shall be conducted only on soils sufficiently wet to prevent fugitive emissions.

The provisions are intended to address fugitive sources of lead and arsenic which are significant contributors to ambient concentrations. Soil disturbances from vehicle movement, construction, maintenance, and remediation activities are likely causes of spikes in ambient concentrations and the proposed provisions have been found to be effective in existing dust mitigation plans at the applicable sites.

### **Ambient Sampling (Subdivision (j))**

Rule 1420.1 paragraph (j)(2) currently requires that lead and arsenic samples be collected at least once every three calendar days and daily sampling for lead or arsenic only if there is an exceedance in the Rule 1420.1 ambient lead or arsenic concentration limits. PAR 1420.1 would require that 24-hour, midnight-to-midnight lead and arsenic samples be collected daily. This provision would be effective upon adoption of PAR 1420.1.

During the January 2014 rulemaking, staff expressed interest in continuous emission and ambient monitoring. The SCAQMD staff with, assistance from the large lead-acid battery recycling facilities, are implementing a demonstration program for continuous in-stack emissions monitoring and a continuous ambient monitor. Quemetco commented that they already are collecting daily samples and do not object to the idea of daily monitoring. In addition, Exide had also commented that they are collecting daily samples on some monitors.

During the Working Group meeting, representatives from both affected facilities suggested a provision to cover a monitor malfunction. In response, PAR 1420.1 subparagraph (j)(2)(C),

includes a provision to address monitor malfunction such as equipment failure, vandalism, lightning strikes or other events beyond the facility's control. Since Rule 1420.1 paragraph (j)(7) requires that all ambient air quality monitoring systems be equipped with a backup, uninterruptible power supply to ensure continuous operation of the monitoring system during a power outage, loss of power to an ambient monitor is not considered a "monitor malfunction." Under PAR 1420.1, in the event a 24-hour, midnight-to-midnight sample was not collected due to a monitor malfunction or other occurrence beyond the control of the facility, the owner or operator must report the monitor failure by calling 1-800-CUT-SMOG within 2 hours of knowing that the 24-hour midnight-to-midnight sample was not collected. The operator is also required to provide the reason, the name of the monitor and the date of the occurrence. The operator shall submit a 24-hour midnight to midnight sample for the following day as sampling cannot be missed for more than one day over a consecutive 30-day period.

PAR 1420.1 includes provisions for retaining ambient daily samples for one year and providing the samples to the Executive Officer within one business day upon request.

Rule 1420.1 paragraphs (j)(9) and (j)(10) currently require daily sampling if there is an exceedance of the lead or arsenic ambient concentration, respectively. PAR 1420.1 would remove these paragraphs, since paragraph (j)(2) proposes to require daily sampling on an ongoing basis.

#### **Source Tests (Subdivision (k))**

Rule 1420.1 paragraph (k)(1) allows facilities that demonstrate a lead point source emission rate of 0.0025 lb/hr or less to conduct source testing every 24 months rather than annually. The rate was based on an overall facility point source rate of 0.045 lb/hr. The overall facility rate is proposed to be reduced by 50 percent as noted in the Lead Point Source Emission Rate discussion above. Thus the source test provision will be reduced by the same proportion, or 0.0012 lb/hr. This is projected to require one additional stack at Exide to test annually rather than every 24 months.

Currently under paragraph (k)(9), any changes for an alternative or equivalent source test method must be approved by the SCAQMD Executive Officer as well as the California Air Resources Board (CARB) and U.S. EPA, as applicable. Staff is proposing that the approval beyond the SCAQMD Executive Officer be limited to the agency that developed the test method in question. For example, if an equivalent procedure was sought for EPA Method TO-15, then only SCAQMD and U.S. EPA approval would be necessary.

PAR 1420.1 (k)(15), requires that the reports from source testing conducted pursuant to the rule to be submitted to the SCAQMD within 90 days or less after the completion of the source testing.

#### **Reporting and Notification (Subdivision (n))**

Based on comments from the Rule 1420.1 Working Group, Proposed Amended Rule 1420.1 will also include a provision requiring large lead-acid battery recycling facilities to provide specific information if there is a spike in the daily ambient lead concentration. Under PAR 1420.1, if any daily ambient lead sample is greater than  $0.300 \mu\text{g}/\text{m}^3$ , large lead-acid battery recycling facilities

would be required to notify the Executive Officer in writing within 72 hours of when the facility was informed via laboratory report or other written or verbal communication that the ambient air concentration of lead was greater  $0.300 \mu\text{g}/\text{m}^3$  for any 24-hour sample. The operator is required to provide the date of the occurrence, the name of the monitor, the ambient lead concentration for the 24-hour sample, the potential cause or causes of the occurrence, and potential remedies to prevent the reoccurrence. The reports are not intended to be a full investigation but to provide facilities and the SCAQMD staff with general information on spike prevention.

Under PAR 1420.1, paragraph (n)(1), caution signs shall be posted at all entrances and the perimeter of the facilities stating, "Caution, Lead-Acid Battery Recycling Facility, Call Before Digging, Facility Contact." The proposed amended rule specifies the location to post these signs, the size of the sign, and specific lettering requirements. The purpose of this provision is to give the facility the opportunity to be notified of any pavement or soil work that may be occurring outside of their facility.

The notification provision for unplanned shutdowns is revised to require notification regardless of potential emissions. The provision now applies even when the unplanned shutdown will not result in lead emissions and supersedes previous interpretations.

Under PAR 1420.1 subparagraph (n)(2)(J), notifications are proposed for planned or unplanned breaches to total enclosures. Planned openings require notice to the Executive Officer at least ten calendar days prior while unplanned openings require notification within one hour afterwards. The notice shall include the date and time of the breach, an explanation of why it occurred, the duration or estimated duration of the event and facility contact information.

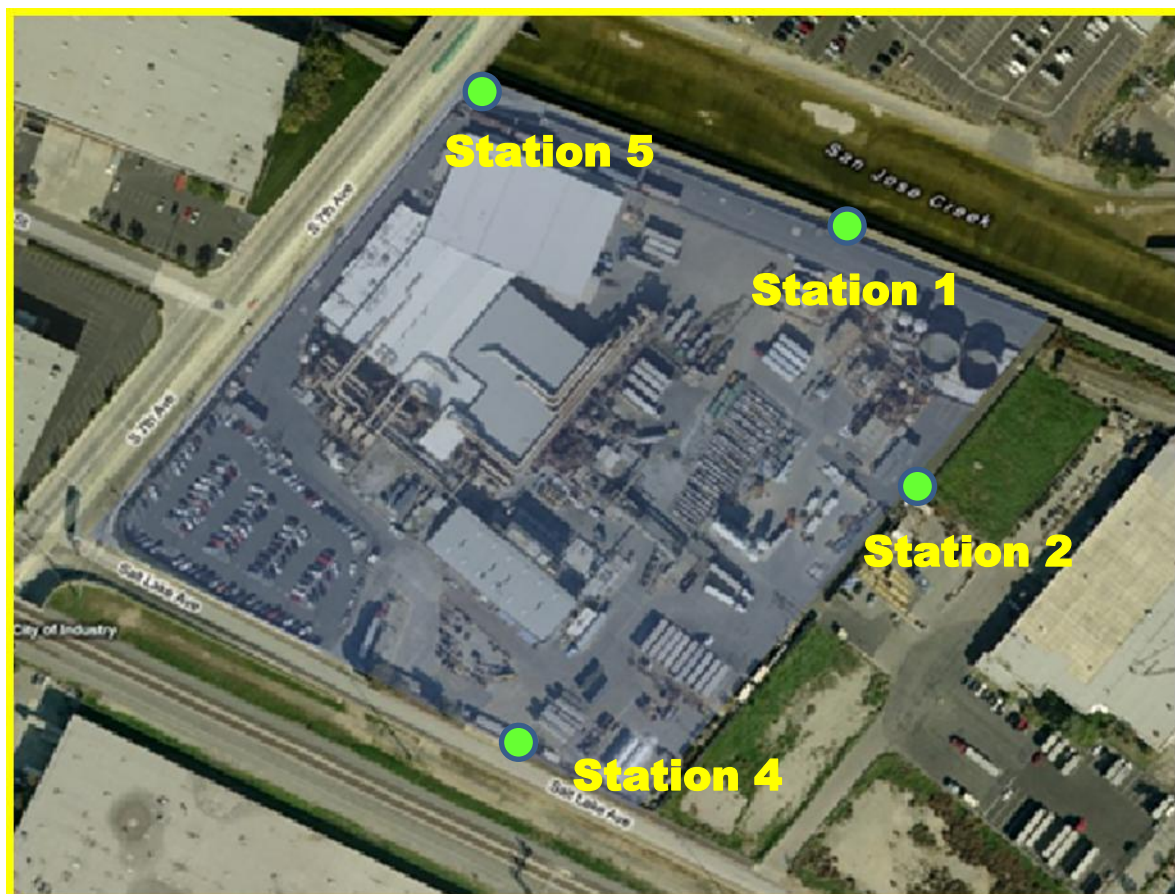
#### **Curtailment Requirements (Subdivision (o))**

Under the current provisions of Rule 1420.1, sources are required to curtail their process if they exceed either the ambient lead concentration limit or the total facility mass emission rate. The rate of curtailment is dependent on the level of exceedance with the first tier coinciding with the respective limits in the rule as found in Tables 1 and 2 of Rule 1420.1. Thus, effective January 1, 2016, the first tier of the monitored ambient air concentration rate for mandatory daily process curtailments in Table 1 of subparagraph (p)(1) will be reduced to coincide with the proposed limit for ambient air concentrations of lead,  $0.110 \mu\text{g}/\text{m}^3$ , as specified in paragraph (d)(1). The timeframe for the duration of the curtailment would also be amended to reflect the proposed ambient air concentration limit. Similarly, staff is proposing to reduce the first tier of the total facility mass emission rate for process curtailments in Table 2 of subparagraph (p)(2) to coincide with the proposed reduction of total facility lead point sources emission rate under subparagraph (f)(1)(A) from 0.045 lb/hour to 0.023 lb/hour.

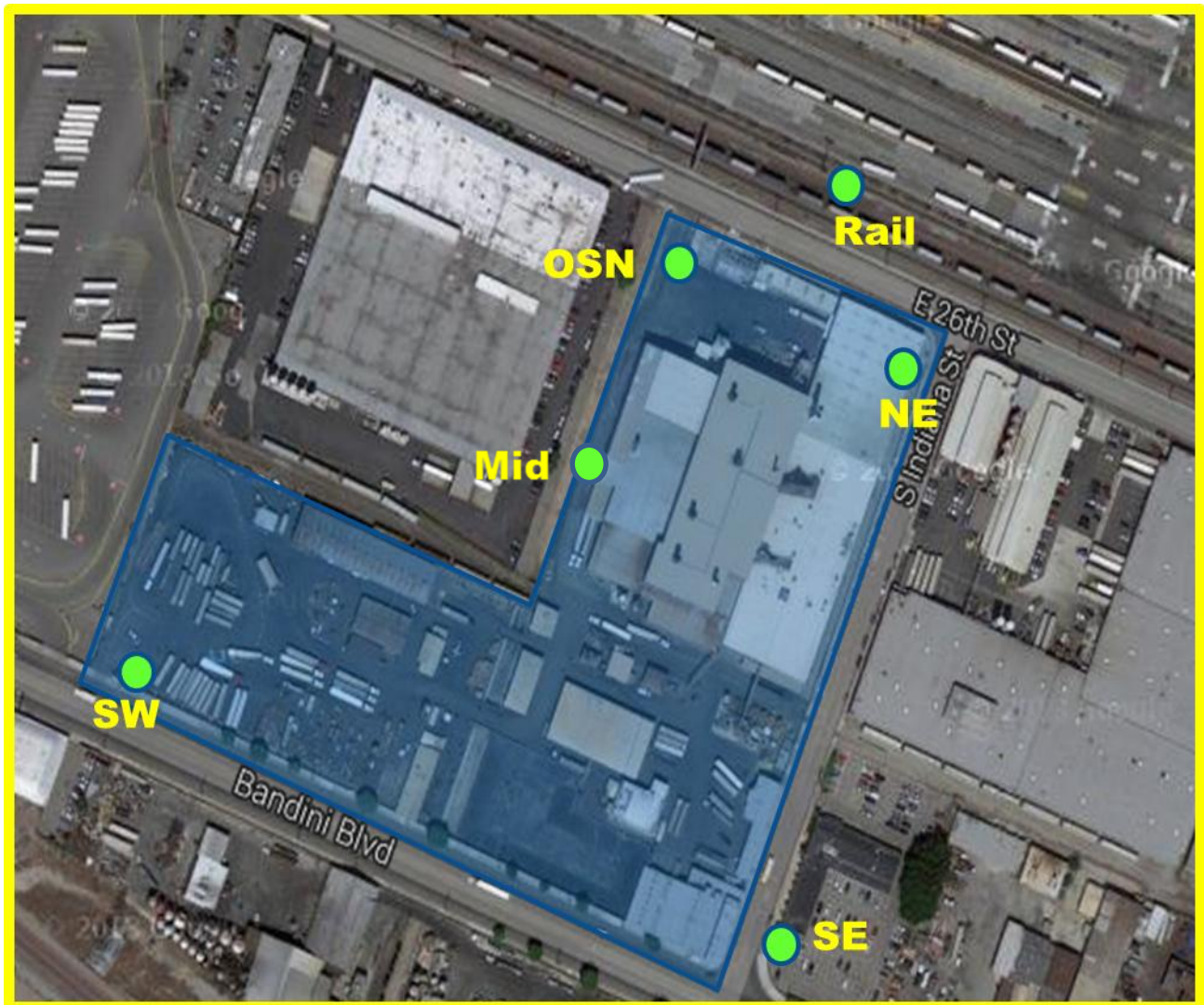
### **ASSESSMENT OF LOWERING THE LEAD AMBIENT CONCENTRATION**

Under Rule 1420.1, large lead-acid battery recycling facilities are required to have fence line monitors. Quemetco has four fence line monitors as seen in Figure 2A while Exide has six fence line monitors as depicted in Figure 2B. The monitors are placed upwind and downwind of the facilities at locations where maximum ground level concentrations are expected at or beyond the property line.

**Figure 2A – Quemetco Fence Line Monitors**





**Figure 2B – Exide Fence Line Monitors**

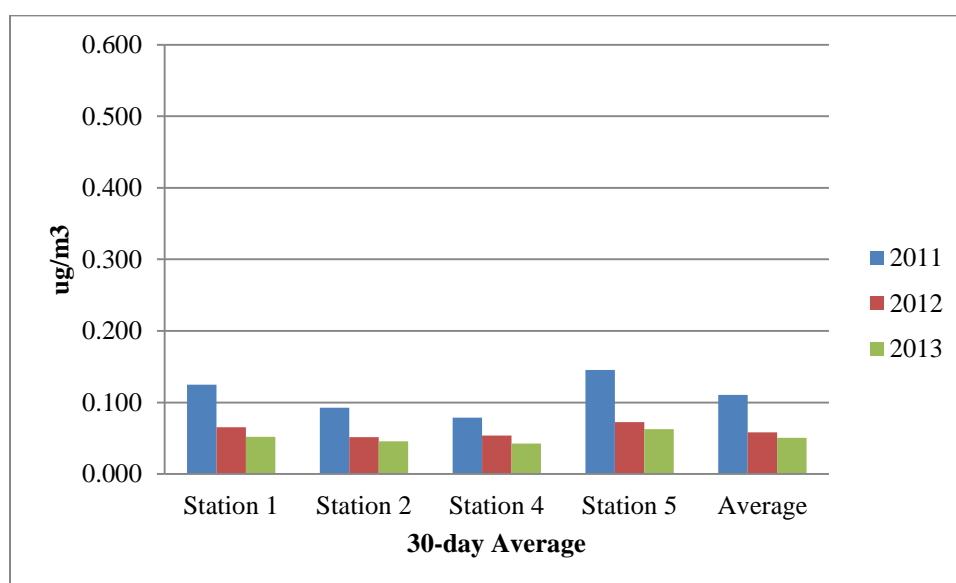
Staff evaluated the historical daily and the rolling 30-day average results for all monitors at both applicable facilities from 2008 until present to determine an appropriate lead ambient concentration limit and assess the feasibility of lowering the ambient lead concentration limit. The rolling 30-day average is calculated by determining the average over the 30 days prior to that particular day. Currently, in most 30-day averages, there would be ten data points that would be averaged assuming that samples were collected 1 in three days. The daily sampling under Proposed Amended Rule 1420.1 would yield 30 data points over the 30-day average. As noted in Figures 1A and 1B above, there have been significant decreases, notably after the January 2012 effective date of the current Rule 1420.1.

Based on analysis of historical lead monitoring data at PAR 1420.1 facilities, both facilities have demonstrated that it is feasible, if large spikes ( $> 0.300 \mu\text{g}/\text{m}^3$ ) can be avoided, to consistently achieve the proposed ambient air concentration standard of  $0.110 \mu\text{g}/\text{m}^3$  averaged over any 30 consecutive days. Better implementation of housekeeping provisions, both existing and

proposed, particularly in situations where there is a greater opportunity for fugitive emissions such as construction activities and soil disturbances, will minimize spike generation and avoid exceedances.

For most of the monitors at Quemetco, there has been more than a 50% decrease in the ambient monitor results over the three year period of 2011 through 2013 as shown in Figure 3 below.

**Figure 3 – Quemetco Ambient Lead Concentration (30-day Averages)**



Examination of ambient lead concentrations in 2012 and 2013 indicate Quemetco complies with current ambient lead concentration limit of  $0.150 \mu\text{g}/\text{m}^3$ . Furthermore, Quemetco had no exceedances of the proposed ambient lead concentration limit of  $0.110 \mu\text{g}/\text{m}^3$  in 2013. There were nine days at the Station 5 monitoring site that would not have met the proposed limit of  $0.100 \mu\text{g}/\text{m}^3$  in 2013 as seen below in Table 3.

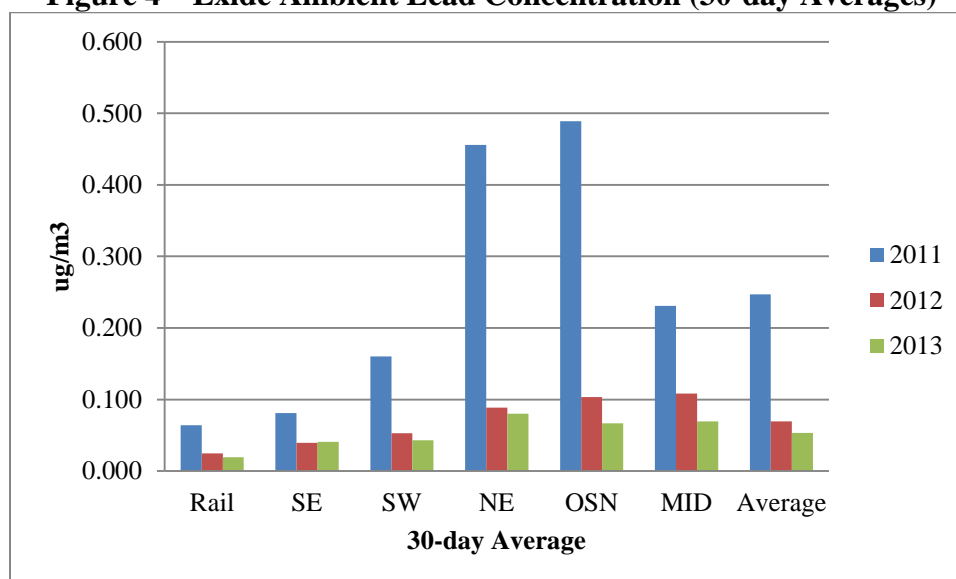
<b>Site Monitor</b>	<b>Station 1</b>	<b>Station 2</b>	<b>Station 4</b>	<b>Station 5</b>
Days Exceeding $0.150 \mu\text{g}/\text{m}^3$	0	0	0	0
Days Exceeding $0.110 \mu\text{g}/\text{m}^3$	0	0	0	0
Days Exceeding $0.100 \mu\text{g}/\text{m}^3$	0	0	0	9

If large spikes greater than  $0.300 \mu\text{g}/\text{m}^3$  were avoided, Quemetco would have met the proposed limit of  $0.100 \mu\text{g}/\text{m}^3$  on all but three days over all four monitors in 2013 as seen below in Table 4. The three days occurred because of several spikes that were less than  $0.300 \mu\text{g}/\text{m}^3$  but more than  $0.200 \mu\text{g}/\text{m}^3$ . If any one of those values were to have impacted by increased vigilance for spike abatement, then based on the 2013 monitored data there would be no values over the proposed  $0.100 \mu\text{g}/\text{m}^3$  ambient lead limit.

<b>Table 4 - Quemetco 2013 30-Day Average, Number of Days Above the Proposed Ambient Lead Limits – Reduced Spikes Above 0.300 <math>\mu\text{g}/\text{m}^3</math></b>				
<b>Site Monitor</b>	<b>Station 1</b>	<b>Station 2</b>	<b>Station 4</b>	<b>Station 5</b>
Days Exceeding 0.150 $\mu\text{g}/\text{m}^3$	0	0	0	0
Days Exceeding 0.110 $\mu\text{g}/\text{m}^3$	0	0	0	0
Days Exceeding 0.100 $\mu\text{g}/\text{m}^3$	0	0	0	3

Similar analysis was conducted on the monitor results at Exide. In Figure 4 below, the average of the 30-day average ambient lead concentration results at the various Exide monitors are presented. The average decrease across all monitors at Exide was nearly 80% over the three year period. Monitoring data in late 2013 and onward at Exide was not included as there was soil excavation required by DTSC and Exide has halted production in 2014 while installing additional control equipment.

**Figure 4 – Exide Ambient Lead Concentration (30-day Averages)**



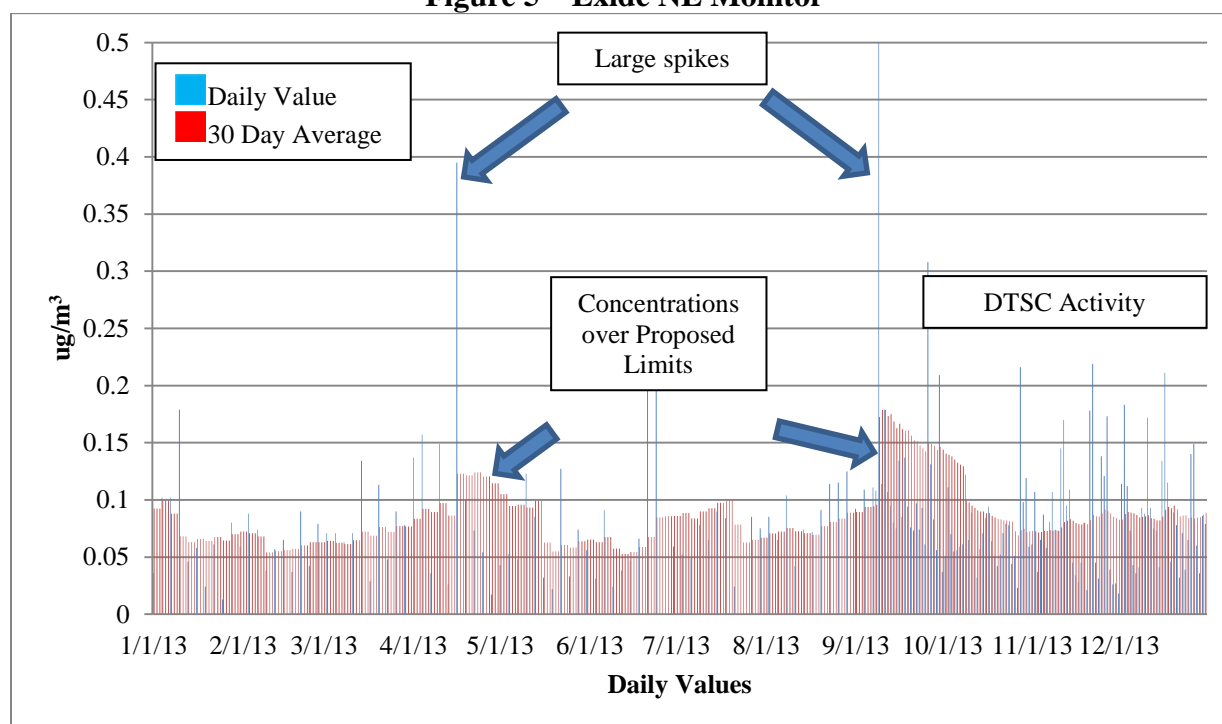
Exide had eight exceedances of the 0.150  $\mu\text{g}/\text{m}^3$  ambient lead concentration limit in 2013 as seen in Table 5 below. Exide would have exceeded the proposed 0.110  $\mu\text{g}/\text{m}^3$  limit on 23 days at the NE monitor and 9 days at the OSN monitor. Furthermore, Exide would have exceeded the proposed 0.100  $\mu\text{g}/\text{m}^3$  limit on 26 days at the NE monitor, 15 days at the OSN monitor and 10 days at the MID monitor

<b>Table 5 - Exide 2013<sup>1</sup> 30-Day Average, Number of Days Above the Proposed Ambient Lead Limits</b>						
<b>Site Monitor</b>	<b>Rail</b>	<b>SE</b>	<b>SW</b>	<b>NE</b>	<b>OSN</b>	<b>MID</b>
Days Exceeding 0.150 $\mu\text{g}/\text{m}^3$	0	0	0	8	0	0
Days Exceeding 0.110 $\mu\text{g}/\text{m}^3$	0	0	0	23	9	0
Days Exceeding 0.100 $\mu\text{g}/\text{m}^3$	0	0	0	26	15	10

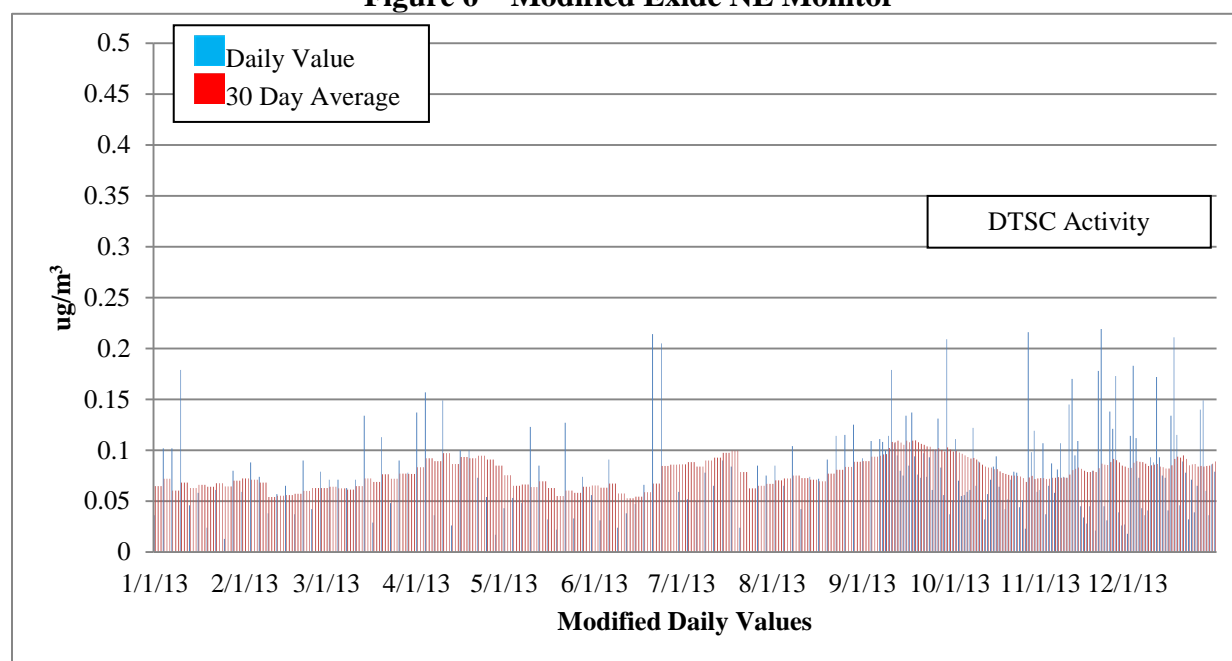
1. Excludes 9/16/13 through 12/31/13 due to DTSC activity

Figure 5 below shows daily monitored values in blue and the 30-day average in red. Examination of Exide's 2013 monitoring data reveals that the ambient lead concentrations over the current limit and proposed limits of  $0.110 \mu\text{g}/\text{m}^3$  and  $0.100 \mu\text{g}/\text{m}^3$  can be attributed to two large ( $>0.300 \mu\text{g}/\text{m}^3$ ) spikes. There was a third spike that was  $>0.300 \mu\text{g}/\text{m}^3$ , however it occurred during the period that Exide was conducting DTSC related soil excavation activities. Aside from the days immediately following the spikes, the 30-day averages are all below the proposed limits.

**Figure 5 – Exide NE Monitor**



If the two spikes are reduced to the annual average value, there would be no exceedances of either the current or proposed  $0.110 \mu\text{g}/\text{m}^3$  ambient lead concentration limit. Aside from the two spikes, all other monitor values remain unchanged, including those that are well above the proposed limit, as seen in Figure 6 below. The proposed limit of  $0.100 \mu\text{g}/\text{m}^3$  would have been exceeded on seven days at the NE monitor in that same time period.

**Figure 6 – Modified Exide NE Monitor**

A similar analysis on spikes done on the other Exide monitors, as presented below in Table 6, indicates nine days of exceedances over the proposed limit of  $0.110 \mu\text{g}/\text{m}^3$  occurred in 2013, excluding 9/16/13 through 12/31/13 when DTSC activity was taking place. Additionally, all exceedances of the proposed limit at the OSN monitor occur beginning the same date (9/6/13) as the second spike seen on Figure 5. The exceedances noted at the MID, OSN and NE monitors at Exide all occur during the same timeframe where initial DTSC work, including trenching within the facility, was commencing. This correlation between spikes and exceedances suggests that the proposed limit of  $0.110 \mu\text{g}/\text{m}^3$  can be met by avoiding large spikes and implementing measures specified in Table 7.

<b>Table 6 - Exide 30-Day Average, Number of Days Above the Proposed Ambient Lead Limits – Reduced Spikes Above <math>0.300 \mu\text{g}/\text{m}^3</math></b>						
<b>Site Monitor</b>	<b>Rail</b>	<b>SE</b>	<b>SW</b>	<b>NE</b>	<b>OSN</b>	<b>MID</b>
Days Exceeding $0.150 \mu\text{g}/\text{m}^3$	0	0	0	0	0	0
Days Exceeding $0.110 \mu\text{g}/\text{m}^3$	0	0	0	0	9	0
Days Exceeding $0.100 \mu\text{g}/\text{m}^3$	0	0	0	7	15	10

#### **Achieving the $0.100 \mu\text{g}/\text{m}^3$ Ambient Lead Concentration Limit**

Staff evaluated the measures in Table 7 that could be implemented at both facilities to ensure they meet the  $0.100 \mu\text{g}/\text{m}^3$ .

Table 7

Measures to Reduce Lead Emissions	Description/Frequency	Action To Be Taken By:	
		Exide	Quemetco
Enhanced Measures During Maintenance Activities	<ul style="list-style-type: none"> <li>During maintenance activities such as concrete/asphalt cutting, drilling, or soil grading, increase wash down areas as well as dusting, vacuuming and sweeping to minimize dust</li> <li>4 additional workers; 4 times/year</li> </ul>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Enhanced Housekeeping Measures	<ul style="list-style-type: none"> <li>Implement existing housekeeping provisions more frequently or with better efficacy such as watering and street sweep to minimize dust created by vehicle and foot traffic</li> <li>Wash, vacuum, and sweep inside and outside of building and parking area</li> <li>24 additional workers to implement enhanced daily housekeeping</li> </ul>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Enhancements to Total Enclosures	<ul style="list-style-type: none"> <li>Seal roof on total enclosure</li> <li>Install 8- vestibules to improve maintenance of negative air pressure for doors and other openings, and</li> <li>Install 8- air curtains to improve maintenance of negative air pressure for loading and unloading areas and other openings where vestibules are not practicable</li> </ul>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Additional Wheel Washing Station	1 additional station to water down vehicle wheels before exiting site/	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Increased Maintenance of Baghouses	Increase frequency of baghouses maintenance activities	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Additional Air Pollution Control (Point Source)	New two-cell WESP or additional scrubber	<input checked="" type="checkbox"/>	<input type="checkbox"/>

It is expected that Exide and Quemetco will likely implement measures to eliminate spikes that could occur during specific maintenance activities. This is expected to bring both facilities in compliance with  $0.110 \mu\text{g}/\text{m}^3$  proposed limit and to bring Quemetco into compliance with the  $0.100 \mu\text{g}/\text{m}^3$  proposed limit as their increased vigilance on spike control will also limit smaller spikes from occurring. All other measures in Table 7 such as enhanced housekeeping, enhancements to the total enclosure, an additional wheel washing station, increased maintenance of baghouses, and installation of either a scrubber or 2-cell WESP on the feed dryer could be implemented by Exide to ensure the facility can consistently meet the lower ambient lead concentration limit of  $0.100 \mu\text{g}/\text{m}^3$ . The improvements were identified by staff based on review of source tests and ambient monitoring data, comparing housekeeping practices before and after 2013, and comparing practices between the two impacted facilities. As part of the enhanced



housekeeping provisions, the SCAQMD staff believes that increasing the number of workers to implement these provisions at Exide will improve the efficacy of implementing these measures. It is the SCAQMD staff's observation that the other large lead-acid battery recycling facility generally uses more workers when conducting daily housekeeping measures.

In addition, many of the improved measures are based on the respective facilities' Rule 1420.1 Compliance Plan and dust mitigation measures. With the exception of baghouse maintenance and potentially installing additional control equipment, the improvements focus on reducing fugitive emissions. Improved baghouse maintenance such as more frequent inspection and replacement of PTFE (Polytetrafluoroethylene) bags would help prevent equipment failures and ensures the baghouse is operating properly. Finally, the additional air pollution control would likely be on the Feed Dryer and addresses the highest emitting point source at Exide, according to 2012 source test data. Based on the 2012 source test the feed dryer was approximately three times higher than the next highest lead emission point source. Since the 2012 source test, Exide has installed HEPA on the feed dryer which would reduce the lead emission rate. However, it is expected that the lead emission rate from the feed dryer would still be about two times higher than the next highest lead emission point source. Thus, it is reasonably foreseeable that Exide would likely further control the feed dryer to ensure compliance with the ambient lead concentration limit under PAR 1420.1. Based on review of 2013 ambient lead monitored data combined strict adherence with point source emission limit, housekeeping and maintenance provisions, and implementation of some or all of the enhanced measures discussed above, the SCAQMD staff believes both facilities can meet the lower ambient lead concentration limit of  $0.100 \mu\text{g}/\text{m}^3$ . The exceedances noted at the MID, OSN and NE monitors at Exide all occur during the same timeframe where initial DTSC work, including trenching within the facility, was commencing.

## COMMENTS AND RESPONSES

**Comment 1:** Given Exide's investment in control equipment to comply with the existing provisions of Rule 1420.1, it is critically important that any District proposed amendments reflect realistic and achievable limits with a reasonable buffer.

**Response:** SCAQMD acknowledges Exide's efforts to comply with the existing provisions in Rule 1420.1. Based on source tests in 2010 and 2012 and the additional pollution controls that have been and are in the process of being installed, the SCAQMD staff is confident that Exide can meet the proposed overall lead emission rate of 0.023 lb/hour. Regarding the lower ambient lead concentration limit of  $0.100 \mu\text{g}/\text{m}^3$ , based on the 2013 ambient monitored data Exide can achieve this lower ambient concentration limit with some improvements in their point source air pollution controls and housekeeping and maintenance activities.

**Comment 2:** The control equipment being installed at Exide is designed to satisfy the January 2014 amendments to Rule 1420.1 ("negative pressure" and limits on benzene, arsenic and 1,3 butadiene) and to satisfy Rule 1402. Though additional lead reductions are reasonably expected, the actual amount of reduction is unknown until after their implementation. Exide hopes that it can achieve the proposed lead

mass emission rate of 0.023 pounds per hour, but the rate should be established at 0.036 lb/hr to provide an adequate “buffer”.

**Response:** Based on earlier source testing conducted in 2010 and 2012 for approved AB2588 Health Risk Assessments, the combined lead point source emissions at Exide were under the proposed lead mass emission limit of 0.023 pound per hour. Since the 2012 source test, Exide has installed a HEPA filter on their feed dryer. In addition, Exide is installing a scrubber on their furnace and high efficiency particulate arrestors on several baghouses that will further reduce the lead emission rate as part of their risk reduction projects. The proposed amendment will codify the emission reductions achieved in practice.

**Comment 3:** Exide appreciates the District’s rationale for not lowering the mass emission rate to 0.003 lb/hr, as sought by Quemetco. Exide must be given a chance to implement its District-approved project.

**Response:** At the January 9, 2015 Governing Board meeting, staff presented the approach for PAR 1420.1 which will lower the lead point source emission rate to 0.023 lb/hour and also lower the ambient lead concentration limit to 0.110  $\mu\text{g}/\text{m}^3$  effective January 1, 2016, and then to 0.100  $\mu\text{g}/\text{m}^3$  effective January 1, 2017. The Board also asked that in the adoption resolution for PAR 1420.1 that staff include a commitment to return to the Governing Board regarding the feasibility of lowering the point source lead emission rate beyond those in PAR 1420.1. Allowing Exide to complete emission reduction projects and source test will provide a more accurate representation of point source emissions at Exide and the feasibility and potential for further lead emission reductions from point sources.

**Comment 4:** There is inherent variability in ambient data, and it cannot be assumed that any daily result above 0.150  $\mu\text{g}/\text{m}^3$  is either: (1) problematic, or (2) the result of an assignable and correctable site-related cause. The District should consider keeping the existing standard while adding a second compliance standard of 0.12  $\mu\text{g}/\text{m}^3$  measured over a longer averaging period of 60 to 90 days to account for the variability.

**Response:** Staff analysis of ambient monitor results during 2013 found that if daily ambient readings greater than 0.300 lb/hour are eliminated, an ambient air concentration lead limit to 0.110  $\mu\text{g}/\text{m}^3$  averaged over a 30-day period is feasible. Based on 2013 ambient lead data, spikes over 0.300  $\mu\text{g}/\text{m}^3$  are infrequent, occurring just 0.2% of the time, and strongly correlate to exceedances of both the proposed limit and the existing limit. Staff agrees that a daily value above 0.150  $\mu\text{g}/\text{m}^3$  is not uncommon and does occur. However, over a 30 day averaging period a daily value of 0.150  $\mu\text{g}/\text{m}^3$  did not lead to any exceedances of the current limit and would not lead to any exceedances of the proposed limit as most daily values are well below 0.100  $\mu\text{g}/\text{m}^3$ . Additionally, the exceedances noted at the MID, OSN and NE monitors at Exide all occur during the same timeframe where initial DTSC work, including trenching within the facility, was commencing. Enhance



measures during maintenance activities would likely address spikes occurring because of remediation activities.

A daily spike or series of spikes over  $0.300 \mu\text{g}/\text{m}^3$  are problematic and PAR 1420.1 requires notification and that the facility identify recommendations for potential remedies when they occur. As the primary indicator of health impacts to the surrounding community, staff believes that reducing the ambient concentration limit to the lowest feasible limit is a priority. Furthermore, in practice, shorter averaging periods is more stringent and will result in lowering average monitored values. This more stringent averaging methodology is more health protective. The proposed amended rule will require daily monitoring, which will provide more data points within the 30 day average which should help to account for variability.

**Comment 5:** We do not oppose daily sampling but request similar data completeness requirements and implementation concepts for federal lead NAAQS monitoring at 40 CFR 50, Appendix R, Section 4(c)(i) which could be adapted to a daily sampling program.

**Response:** Staff has included monitor failure provisions in the proposed rule as requested. The daily sampling, data completeness requirements are similar to those in 40 CFR 50, Appendix R. With respect to missing daily samples, the proposed rule allows up to one missing daily sample over a consecutive 30 day period provided the missing sample was due to monitor malfunction or other occurrence beyond the control of the facility.

**Comment 6:** The compliance date for the new lead mass emission and ambient standards should be extended 90 days from January 1, 2016 to April 1, 2016 to accommodate completion of installing control equipment, commissioning and testing.

**Response:** Staff has already proposed extending the compliance dates from July 1, 2015 to January 1, 2016 to accommodate the completion of the RRP Projects and subsequent source testing at Exide. RRP Projects completion is scheduled for Spring 2015 allowing ample time for troubleshooting and source testing the newly installed equipment. The facility will have approximately nine months to make adjustments as systems go online and testing should take no more than three months.

**Comment 7:** As the District has acknowledged, ambient emissions are more reflective of health protection and exposure risks than stack emissions. Ambient lead concentrations are driven more by fugitive sources than point sources. Over time Exide's ambient lead levels are comparable to Quemetco's ambient lead levels, even though Quemetco has lower measured mass emissions.

**Response:** Staff agrees that ambient lead concentration limits are more reflective of health protection and exposure risks. Stack emissions are a contributing source to ambient lead concentrations as are fugitive emissions and lead-contaminated surface dust and soil. Staff is proposing to limit all three contributing sources with the primary aim of reducing the ambient lead concentration to the lowest feasible limit.

**Comment 8:** Exide conducted a detailed Feasibility Study concluding that the 0.003 lb/hr mass emission limit was infeasible. Multiple control technologies were carefully assessed, including wet electrostatic precipitators. Exide was not able to find an emissions control equipment vendor that would guarantee the 0.003 lb/hr emission rate on a facility-wide basis. Exide's physical space constraints are such that there is no suitable space for a wet electrostatic precipitator. Finally, the \$30 million cost to implement the control technologies would potentially provide only a marginal, if any, benefit on emissions reductions.

**Response:** Thank you for summarizing the Feasibility Study you provided regarding the 0.003 pound per hour mass emission limit. Staff found the infeasibility assertion to be more nuanced than stated in the study or the comment above. It is the SCAQMD staff's understanding that the vendor of the WESP was willing to guarantee an emission reduction efficiency of 92%, provided the Feed Dryer lead emissions were reduced by half. This, combined with improvements to the general ventilation control system could potentially reduce overall lead emissions to a level near 0.003 pounds per hour. In addition, the SCAQMD staff believes that one option to install a WESP would be over the surface pond.

The SCAQMD staff is aware, however, that Exide has chosen a control strategy to reduce lead and arsenic emissions that does not include installing a WESP. Exide's control strategy does include secondary, tertiary and quaternary pollution controls, depending on the stack. As previously stated, at the January 9, 2015 Governing Board meeting, staff presented the approach for PAR 1420.1 which will lower the lead point source emission rate to 0.023 lb/hour and also lower the ambient lead concentration limit to 0.110  $\mu\text{g}/\text{m}^3$  effective January 1, 2016, and then to 0.100  $\mu\text{g}/\text{m}^3$  effective January 1, 2017. The Board also asked that in the adoption resolution for PAR 1420.1 that staff include a commitment to return to the Governing Board regarding the feasibility of lowering the point source lead emission rate. Allowing Exide to complete emission reduction projects and source test will provide a more accurate representation of point source emissions at Exide and the feasibility and potential for further lead emission reductions from point sources.

**Comment 9:** Quemetco supports the adoption of the 0.110  $\mu\text{g}/\text{m}^3$  ambient lead concentration as proposed by SCAQMD.

**Response:** Thank you for your comment.

**Comment 10:** Quemetco urges SCAQMD to adopt a facility-wide lead mass emission rate limit of 0.003 pounds per hour. While the proposed limit of 0.023 pounds per hour appears significant, further examination reveals it to be far more modest. The District's proposed point source emission standard will result in no meaningful reduction of lead in the greater Los Angeles area. Quemetco's proposal, however, will reduce lead point source emissions to 25 pound per year, nearly ten times less than what is proposed.

**Response:** At the January 9, 2015 Governing Board meeting, staff presented the approach for PAR 1420.1 which will lower the lead point source emission rate to 0.023 lb/hour and also lower the ambient lead concentration limit to 0.110  $\mu\text{g}/\text{m}^3$  effective January 1, 2016, and then to 0.100  $\mu\text{g}/\text{m}^3$  effective January 1, 2017. The Board also asked that in the adoption resolution for PAR 1420.1 that staff include a commitment to return to the Governing Board regarding the feasibility of lowering the point source lead emission rate. Allowing Exide to complete emission reduction projects and source test will provide a more accurate representation of point source emissions at Exide and the feasibility and potential for further lead emission reductions from point sources.

Based on source tests, Quemetco has demonstrated a lead point source emission rate less than 0.003 pound per hour. The point sources represent only one aspect of contributing emission sources. Ambient concentrations are the sum of point source and fugitive emissions as well as contaminated surface dust and lead dust that is re-entrained into the ambient air. The SCAQMD staff believes that lowering the ambient lead concentration limit will minimize all lead emissions from large lead-acid battery recycling facilities and is directly associated with protecting public health. In addition, ambient lead and arsenic concentrations are sampled over a 24-hour period and collected daily provided more continuous compliance information as opposed to point source limits which require a source test done on an annual basis.

**Comment 11:** Quemetco has six years of test data demonstrating that the Quemetco's wet electrostatic precipitator achieves its proposed 0.003 pound per hour lead emission rate.

**Response:** The wet electrostatic precipitator has been proven to be successful at Quemetco. Quemetco's operation is different than Exide's operation. Quemetco operates an electric resistance furnace while Exide operates a blast furnace. The configuration of the two facilities is also different and the engineering, design, and construction for the two facilities would also be different. Both facilities realize control efficiencies of 99% or greater. The variability in efficiencies between different equipment, different process weights and different pollutants makes determining an overall control efficiency problematic, particularly when the control equipment is in the midst of changes.

**Comment 12:** The lead emission rates established by Quemetco are both technologically feasible, as demonstrated through testing, and economically feasible. In short, Quemetco's lead emission rates represent Best Available Control Technology (BACT), Best Available Retrofit Control Technology (BARCT), Toxics Best Available Control Technology (TBACT) and Lowest Achievable Emission Rate (LAER).

**Response:** Again, while the wet electrostatic precipitator has been proven successful at Quemetco with their electric arc furnace, it has not formally been demonstrated to be BACT, BARCT, TBACT and LAER. These designations require careful evaluation to determine the applicable scope and processes. There may be limitations placed upon the designation including the specific type of equipment (i.e. electric arc furnace). All of these limits (BACT, BARCT, etc.) are based on individual pieces of equipment, not an entire facility. Where two facilities have different types of equipment, they may legitimately produce different total point source emissions.

**Comment 13:** Quemetco requests that the Governing Board be presented the option to adopt a lead mass point source emission rate of 0.003 pounds per hour when it considers the currently proposed changes.

**Response:** At the January 9, 2015 Governing Board meeting, staff presented the approach for PAR 1420.1 which will lower the lead point source emission rate to 0.023 lb/hour and also lower the ambient lead concentration limit to 0.110 µg/m<sup>3</sup> effective January 1, 2016, and then to 0.100 µg/m<sup>3</sup> effective January 1, 2017. Staff did highlight Quemetco's proposal to lower the overall stack emission rate to 0.003 lb/hour. As a result, the Board asked that in the adoption resolution for PAR 1420.1 that staff include a commitment to return to the Governing Board regarding the feasibility of lowering the point source lead emission rate. SCAQMD staff believes that allowing Exide to complete emission reduction projects and source test will provide a more accurate representation of point source emissions at Exide and the feasibility and potential for further lead emission reductions from point sources.

**Comment 14:** It takes approximately three days for the lab to analyze an ambient sample, and, in the days before receiving a result, the facility has little ability to correct the problem or assess the event that may have resulted in what is later learned to be a high result. By the time the result is known, the facility may have already exceeded the 30-day average without a reasonable opportunity to assess the cause and take corrective action if needed.

**Response:** Ambient 24-hour sampling by definition only provides a result after the events of a day. Regardless of whether the results become known immediately afterwards or three days later, a high result may lead to several days of exceedances. It is incumbent upon the facility to prevent the exceedances by operating equipment properly and strict adherence to Rule 1420.1 operating, housekeeping, and

maintenance provisions. It is expected that both facilities will implement additional measures to ensure compliance with the lower ambient concentration limit of  $0.100 \mu\text{g}/\text{m}^3$ . Review of the lead ambient concentration results between 2012 and 2013 demonstrate that over time both facilities are already assessing the cause of exceedances and taking corrective actions.

Under Rule 1420.1, both facilities are required to participate and fund an in-stack multi-metals continuous emissions monitoring demonstration program. In addition to this demonstration program, the SCAQMD has been also evaluating through a demonstration program an ambient multi-metals continuous monitoring system. If these systems are successful, they may provide more instantaneous continuous emissions and/or ambient air data.

**Comment 15:** There have been instances where third-parties not under Exide's control have caused or contributed to exceedances of the 30-day average. As such, Exide respectfully requests that language be included in the rule to allow the facility to seek a waiver to avoid a notice of violation and/or curtailment. The facility shall provide credible supporting evidence.

**Response:** There is no prohibition in the rule against requesting such a waiver and/or offering credible supporting evidence. Relief from the curtailment provisions may be sought through a variance. Notices of Violations are simply allegations that the District believes a violation has occurred. Before the District obtains any penalties, it first needs to prove a violation. The specific amount of penalties paid in settlement or ordered by a court must be based on an analysis of the factors set forth in Health and Safety Code section 42403.

**Comment 16:** One IQ point, or  $1 \mu\text{g}/\text{dL}$  is established by state law. I don't see how allowing 200 pounds per year of lead emissions with the proposed limit of 0.023 pounds per hour from stack emissions will comply with state law.

**Response:** The California Office of Environmental Health Hazard Assessment (OEHHA) has developed a  $1 \mu\text{g}/\text{dL}$  benchmark for source-specific incremental change in blood levels for protection of children. The California Human Health Screening Levels (CHHSL) represent concentrations in soil that have no more than a 2.5% probability of decreasing IQ by more than 1 point in a 90th percentile child or fetus. The benchmark was established to estimate a concentration in soil that would lead to an incremental increase in blood lead of up to  $1 \mu\text{g}/\text{dL}$  to a child resident. Using DTSC's Leadsread model, OEHHA determined that a residential exposure to lead in soil or dust of  $77 \mu\text{g}/\text{g}$  would result in an incremental increase in blood lead to  $1 \mu\text{g}/\text{dL}$ . However, there is no established way to translate stack emissions at a point source directly to lead content in soil. Stack emissions are dispersed over an area in and around the facility in relatively small amounts. However, when allowed to accumulate over many years, as they clearly have in the two communities surrounding the Exide and Quemetco, the levels could exceed  $77 \mu\text{g}/\text{g}$ . The U.S. EPA examined similar thresholds when

establishing the lead NAAQS. However, rather than using stack emission limits with its inherent limitations, U.S. EPA established a standard based on the ambient lead concentration. When reviewing the current federal standard, U.S. EPA reviewed the median IQ loss associated with lead exposure for the median child. Their estimations of risk are approximate as noted by the ranges presented below in Table 3-11 taken from the U.S. EPA's Policy Assessment for the Review of the Lead National Ambient Air Quality Standards, May 2014. The bolded range represents the range with the highest overall confidence. The current ambient concentration limit in Rule 1420.1 is a maximum monthly average of  $0.150 \mu\text{g}/\text{m}^3$  which, as seen below, is more health protective than the existing federal limit. The proposed maximum monthly average limits of  $0.110 \mu\text{g}/\text{m}^3$  and  $0.100 \mu\text{g}/\text{m}^3$  will be even more health protective but the uncertainties in the estimates prevent a determination if the proposed limit, or even the current limit, prevent the loss of one IQ point in a child resident. It should be noted that U.S. EPA and SCAQMD staff concur that ambient lead concentrations, and not total facility mass lead emissions are the primary indicator of health impacts to the surrounding community.

## U.S. EPA's Policy Assessment for the Review of the Lead National Ambient Air Quality Standards, May 2014

**Table 3-11. Estimates of air-related risk for the generalized (local) urban case study, including interpolated estimates for current standard.**

Air Quality Scenario Just meeting specified metric ( $\mu\text{g}/\text{m}^3$ )			Median Air-related IQ Loss <sup>A</sup> for Generalized (local) Urban Case Study
Maximum Quarterly Average <sup>D</sup>	Maximum Monthly Average	Maximum 3-month Average	
1.5 (previous NAAQS)			3.5 - 4.8 (1.5 - 7.7)
	0.5		1.9 - 3.6 (0.7 - 4.8)
0.2			1.5 - 3.4 (0.5 - 4.3)
		0.15 <sup>B</sup> (current NAAQS)	1.5 - 3.4 (0.5 - 4.3)
	0.2		1.2 - 3.2 (0.4 - 4.0)
	0.05		0.5 - 2.8 (0.2 - 3.3)
	0.02		0.3 - 2.6 (0.1 - 3.1)
<p>A - Air-related risk is bracketed by "recent air" (lower bound of presented range) and "recent" plus "past air" (upper bound of presented range) (see section 3.4.4 for additional detail on these categories). Boldface estimates are generated using the C-R function in which we have the highest overall confidence (the log-linear with low-exposure linearization). Values in parentheses reflect the range of estimates associated with all four concentration-response functions (see discussion in section 3.4.3.3.1). Values in parentheses reflect the range of estimates associated with all four concentration-response functions.</p> <p>B - Risk estimates interpolated - see text.</p>			

## SOCIOECONOMIC ASSESSMENT

PAR 1420.1 would include revisions to the lead ambient air concentration limit, frequency of ambient lead samples, point source emission rates, compliance plan and curtailment thresholds, housekeeping and maintenance provisions, additional reporting requirements and other administrative changes.

### Affected Facilities and Industries

The proposed amendments affect two facilities that process greater than 50,000 tons of lead annually. These two facilities belong to the industry of secondary lead smelting, refining, and alloying of nonferrous metal [North American Industrial Classification System (NAICS) 331492].

## Compliance Costs

The proposed ambient air concentration limit of  $0.110 \mu\text{g}/\text{m}^3$  can be achieved by eliminating large spikes through improved implementation of housekeeping provisions and enhanced maintenance measures, particularly in situations where there is a greater opportunity for fugitive emissions such as construction activities and soil disturbances. On average, two to four spikes per year were observed over the past three years. Staff estimates that four additional workers will be necessary to implement the enhanced maintenance measures during certain soil disturbance activities at a cost of approximately \$3,200 per activity, assuming four additional employees working 40 hours each at \$20 per hour to limit the soil disturbances. Assuming four incidents per year at each facility, the annual additional cost for improved housekeeping implementation is \$25,600.

To comply with the proposed  $0.100 \mu\text{g}/\text{m}^3$  ambient lead concentration limit, it is estimated that Exide will need to implement enhanced housekeeping measures. Staff estimates that a crew of eight for each shift will be necessary to do additional sweeping, wash downs, baghouse maintenance and other dust abatement activities. This would result in an additional \$175,200 in annual housekeeping costs. Additionally, a second wheel washing station and enhancements to the total enclosures would also be necessary. The wheel washing station cost is estimated to be \$65,000, with an annualized cost of \$8,000. The enhancements to total enclosures would include sealing the roof to improve the negative pressure in the building and installing two sets of doors with associated vestibules and air curtains. The estimated cost is \$984,000. The annualized cost of the enhancements to total enclosures is \$121,430. Installation of a scrubber or WESP on the Feed Dryer system may also be a consideration. Because the cycling process of the WESP, two cells would be required making the WESP more capital intensive and more expensive to operate. Therefore, it is assumed that Exide would install a scrubber. It is estimated that the cost to Exide for the scrubber would be approximately \$325,000 which includes installation, permitting and source testing. The annualized cost would be \$40,100. There would also be an increase in electricity costs of approximately \$44,200 per year to run the equipment.

PAR 1420.1 would also require each facility to submit a Compliance Plan if the ambient lead concentration limit was exceeded. The one-time cost of a compliance Plan is estimated at \$20,000 for each facility. The mass emission limit reduction proposed is not expected to result in any additional costs to either facility as both facilities can meet the proposed limit with existing control equipment. However, the decrease in the mass emission limit will result in one additional source test in one facility annually at a cost of \$50,000 every other year for an annualized cost of \$25,000.

PAR 1420.1 would also require Exide to install three additional monitors to increase the frequency of ambient sampling. Currently Quemetco has at least two monitors at each of their four monitoring sites. Exide has two monitors at three of their monitoring sites and would need to purchase three more for the remaining three sites. The cost of each monitor is estimated at \$30,000. Lastly, PAR 1420.1 would require additional laboratory tests for lead and arsenic. Ten additional laboratory tests would be needed to be done on 243 days for a total of 2,430 tests annually. At a cost of \$99 per test, the daily sampling proposal in the rule would increase costs by \$241,000 annually. The one-time cost of Compliance Plan and capital cost of monitors were annualized over 10-years and with four percent real interest rate. There will also be costs of less



than \$200 annually for signage and additional notifications. Table 7 presents the total annual cost of the proposed amendments by category, and by facility. The total annual cost of PAR 1420.1 is estimated to be \$667,310, out of which 83 percent is expected to be incurred by the Exide Company.

**Table 7 - Annual Compliance Cost of PAR 1420.1 by Category**

<b>Proposed Rule Requirement</b>	<b>Exide</b>	<b>Quemetco</b>
Enhanced Measures During Maintenance (0.110 µg/m <sup>3</sup> )	\$12,800	\$12,800
Enhanced Housekeeping Measures (0.100 µg/m <sup>3</sup> )	\$175,200	0
Enhancements to Total Enclosures	\$121,420	0
Wheel Washing Station	\$8,000	0
Scrubber	\$40,100	0
Electricity	\$44,200	0
Compliance Plans	\$2,460	\$2,460
Additional Source Testing	\$25,000	0
Ambient Monitors	\$11,070	0
Daily Sampling	\$144,600	\$96,400
Total Cost per Facility	\$555,650	\$111,660
<b>Total Cost of PAR 1420.1</b>	<b>\$667,310</b>	

The total annual cost of the PAR 1420.1 is estimated at approximately \$700,000. The annual compliance cost of this magnitude-when compared relative to the total value of local economy (about \$1 Trillion)-is expected to have no significant economic impacts. As such, the job impacts on the local economy are expected to be small, or within the noise of the Regional Economic Model (REMI) model. Therefore, the REMI model was not used.

### **Rule Adoption Relative to the Cost-effective Schedule**

On October 14, 1994, the Governing Board adopted a resolution that requires staff to address whether rules being proposed for adoption are considered in the order of cost-effectiveness. The 2012 Air Quality Management Plan (AQMP) ranked, in the order of cost-effectiveness, all of the control measures for which costs were quantified. It is generally recommended that the most cost-effective actions be taken first. PAR 1420.1 is not a control measure in the 2012 Air Quality Management Plan (AQMP), and thus was not ranked by cost-effectiveness relative to other AQMP control measures in the 2012 AQMP.

## **CALIFORNIA ENVIRONMENTAL QUALITY ACT**

Pursuant to the California Environmental Quality Act (CEQA) and SCAQMD Rule 110, SCAQMD staff evaluated the proposed project and made the appropriate CEQA determination. The public workshop meeting also served as a CEQA scoping meeting to solicit public input on any potential environmental impacts from the proposed project. Comments received at the public workshop on any environmental impacts were considered when making the CEQA determination.

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## **DRAFT FINDINGS UNDER CALIFORNIA HEALTH AND SAFETY CODE SECTION 40727**

### **Requirements to Make Findings**

California Health and Safety Code Section 40727 requires that prior to adopting, amending or repealing a rule or regulation, the SCAQMD Governing Board shall make findings of necessity, authority, clarity, consistency, non-duplication, and reference based on relevant information presented at the public hearing and in the staff report.

### **Necessity**

PAR 1420.1 is needed to further protect public health by reducing lead emissions from large lead-acid battery recycling facilities. For a toxic air contaminant, such as lead, for which there is no level of exposure that can yet be identified with confidence, as clearly not being associated with some risk of deleterious health effects, the intent of this control measure is to reduce emissions to the lowest level achievable through the most effective feasible control method. Recent testing of surface dust and soil have shown lead-contamination sufficiently high to pose a threat to the health of the people that live and work near in the surrounding community when re-entrained into the ambient air. The proposed rule will reduce lead emissions from point sources as well as fugitive emissions including lead from surface dust and soil re-entrained into the air from facility operations.

Lowering the ambient lead concentration is not inconsistent with studies that USEPA reviewed indicating that lower ambient lead concentrations would result in less impacts to children. According to USEPA, the assessment of the currently available studies continues to recognize a non-linear relationship between blood lead and effects on cognitive function, with a greater incremental effect (greater slope) at lower relative to higher blood lead levels.<sup>2</sup> Chronic health effects include increased risk of cancer, nervous and reproductive system disorders, neurological and respiratory damage, cognitive and behavioral changes, and hypertension. In addition, young children accumulate lead more readily than do those of adults are more vulnerable to certain biological effects of lead including learning disabilities, behavioral problems, and deficits in IQ.

### **Authority**

The SCAQMD Governing Board has authority to adopt PAR 1420.1 pursuant to the California Health and Safety Code Sections 39002, 39650 et. seq., 40000, 40001, 40440, 40441, 40702, 40725 through 40728, 41508, 41700 and 41706.

### **Clarity**

PAR 1420.1 is written or displayed so that its meaning can be easily understood by the persons directly affected by it.

### **Consistency**

PAR 1420.1 is in harmony with and not in conflict with or contradictory to, existing statutes, court decisions or state or federal regulations.

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<sup>2</sup> U.S. EPA's "Policy Assessment for the Review of the Lead National Ambient Air Quality Standards," Environmental Protection Agency, May 2014

**Non-Duplication**

PAR 1420.1 will not impose the same requirements as any existing state or federal regulations. The proposed amended rule is necessary and proper to execute the powers and duties granted to, and imposed upon, the SCAQMD.

**Reference**

By adopting PAR 1420.1, the SCAQMD Governing Board will be implementing, interpreting or making specific the provisions of the California Health and Safety Code Sections 40001 (rules to achieve and maintain ambient air quality standards), 41700 (nuisance), 41706(b) (emission standards for lead compounds from non-vehicular sources), Federal Clean Air Act Section 112 (Hazardous Air Pollutants), and CAA Section 116.

**COMPARATIVE ANALYSIS**

Health and Safety Code section 40727.2 requires a comparative analysis of the proposed amended rule with any Federal or District rules and regulations applicable to the same source. See Table 8 below.

**Table 8: Comparison of PAR 1420.1 with SCAQMD Rule 1420.1, SCAQMD Rule 1420, the 2008 Lead NAAQS, and the NESHAP for Secondary Lead Smelters**

<b>Rule Element</b>	<b>PAR 1420.1</b>	<b>SCAQMD Rule 1420.1</b>	<b>SCAQMD Rule 1420</b>	<b>CARB 1998-12-30 Non Ferrous Metal Melting ATCM</b>	<b>2008 Lead NAAQS</b>	<b>NESHAP from Secondary Lead Smelting</b>
Applicability	No proposed changes	Lead-acid battery recycling facilities that have ever processed more than 50,000 lead-tons/year	Facilities that use or process lead-containing materials	Facilities that melt non-ferrous metals including lead	All States	Secondary lead smelters
Ambient Air Quality Standard	January 1, 2016, to December 31, 2016 meet $0.110 \mu\text{g}/\text{m}^3$ averaged over 30 consecutive days. On and after January 1, 2017 meet $0.100 \mu\text{g}/\text{m}^3$ averaged over 30 consecutive days.	Meet $0.150 \mu\text{g}/\text{m}^3$ averaged over 30 consecutive days	$1.5 \mu\text{g}/\text{m}^3$ averaged over 30 days	None	$0.15 \mu\text{g}/\text{m}^3$ : 3-month rolling average Demonstrated over a 3-year period.	None
Total Enclosures	No proposed changes	Total enclosures for main areas where processing, handling and storage of lead-containing materials occur	None	Enclosed storage area for dust-forming material including, but not limited to, dross, ash, or feed material	None	Total or partial enclosures for: - Smelting furnace and dryer charging hoppers, chutes, and skip hoists; - Smelting furnace lead taps, and molds during tapping; - Refining kettles; - Dryer transition pieces; and Agglomerating

<b>Rule Element</b>	<b>PAR 1420.1</b>	<b>SCAQMD Rule 1420.1</b>	<b>SCAQMD Rule 1420</b>	<b>CARB 1998-12-30 Non Ferrous Metal Melting ATCM</b>	<b>2008 Lead NAAQS</b>	<b>NESHAP from Secondary Lead Smelting</b>
						furnace product taps
Emission Standard and Requirements for Lead Control Devices	Total facility mass emission rate of 0.023 lb/hr of lead from all lead point sources; Maximum emission rate, use of filters and secondary lead controls on dryer remain unchanged.	Total facility mass emission rate of 0.045 lb/hr of lead from all lead point sources; maximum emission rate of 0.010 lb/hr of lead for any individual lead point source  Use of filters or bags that are rated by the manufacturer to achieve 99.97 percent control efficiency on 0.3 micron particles or made of PTFE membrane material Secondary lead controls on dryer	99% control efficiency for particulate matter; 98% control efficiency for lead	99% control efficiency	None	Concentration of 2.0 mg/dscm
Compliance Plan	Only required if a facility exceeds ambient lead concentration limit of 0.110 $\mu\text{g}/\text{m}^3$ from January 1, 2016 to December 31, 2016 or 0.100 $\mu\text{g}/\text{m}^3$ on or after January 1, 2017Identifies additional lead control measures beyond the rule.	Only required if a facility exceeds 0.120 $\mu\text{g}/\text{m}^3$ ; 30 consecutive day avg.; Identifies additional lead control measures beyond the rule.	Specifies general facility information	None	None	None

<b>Rule Element</b>	<b>PAR 1420.1</b>	<b>SCAQMD Rule 1420.1</b>	<b>SCAQMD Rule 1420</b>	<b>CARB 1998-12-30 Non Ferrous Metal Melting ATCM</b>	<b>2008 Lead NAAQS</b>	<b>NESHAP from Secondary Lead Smelting</b>
Ambient Air Monitoring Requirements	<ul style="list-style-type: none"> <li>- Daily sampling for lead and arsenic</li> <li>- Provisions included for monitor failure</li> <li>- One year sample retention</li> <li>- Number of monitors and reporting frequency remain unchanged</li> </ul>	<p>Minimum of four monitors at facility locations approved by the Executive Officer</p> <p>Samples collected at least once every three days Results reported monthly</p> <p>Daily sampling if <math>0.120 \mu\text{g}/\text{m}^3</math> is exceeded after January 1, 2015</p>	<p>Minimum of two monitors at facility locations approved by the Executive Officer</p> <p>Samples collected every six days Results reported quarterly</p>	None	<p>For states, a minimum of:</p> <ul style="list-style-type: none"> <li>- One source-oriented monitor at all facilities emitting 1.0 tons of lead/year; and</li> <li>- One non-source-oriented monitor in urban areas with a population of at least 500,000 people</li> <li>- Samples collected every six days</li> </ul>	None
Housekeeping and Maintenance Requirements	<ul style="list-style-type: none"> <li>- All lead or arsenic containing trash or debris outside of a total enclosure shall be kept in closed containers free of leaks</li> <li>- Posted facility vehicle speed limit of 5 miles per hour</li> <li>- All outside concrete or asphalt cutting performed under 100% wet conditions</li> <li>- Grading of soil only on soils sufficiently wet to prevent fugitive emissions</li> </ul>	<p>Prescribed requirements for cleaning frequencies of specific areas; maintenance activity; building integrity inspections; storage and transport of lead-containing materials; onsite mobile sweeping; and surface impoundment</p>	<p>Requirements for storage of dust-forming material; weekly cleaning of surfaces subject to vehicular or foot traffic; and storage, disposal, recovery, and recycling of lead or lead-containing wastes generated from housekeeping</p>	Surfaces subject to vehicular or foot traffic shall be vacuumed, wet mopped or otherwise maintained	None	<p>Periodic wash down of plant roadways (lower frequency than PAR 1420.1); wet suppression of battery breaking area storage piles; vehicle wet washing of vehicles exiting the materials handling and storage areas</p>

<b>Rule Element</b>	<b>PAR 1420.1</b>	<b>SCAQMD Rule 1420.1</b>	<b>SCAQMD Rule 1420</b>	<b>CARB 1998- 12-30 Non Ferrous Metal Melting ATCM</b>	<b>2008 Lead NAAQS</b>	<b>NESHAP from Secondary Lead Smelting</b>
		cleanings	activities			
Reporting Requirements	<ul style="list-style-type: none"> <li>- Reporting to Executive Officer within 72 hours of daily ambient air lead concentration of 0.300 µg/m<sup>3</sup> with the following information:               <ul style="list-style-type: none"> <li>o Date of the occurrence;</li> <li>o Name of the monitor;</li> <li>o Ambient lead concentration at the monitor for the 24 hour sample;</li> <li>o Potential cause or causes of the occurrence; and</li> <li>o Potential remedies to prevent the reoccurrence.</li> <li>o Caution signs posted at entrances and perimeter</li> <li>o Notification of breach of total enclosure</li> </ul> </li> </ul>		Ambient air lead and wind monitoring for any lead-processing facility that is required or elects to do ambient air monitoring	<ul style="list-style-type: none"> <li>- Source test results</li> <li>- Amount of metal processed if requesting exemption</li> </ul>	For states: <ul style="list-style-type: none"> <li>- State Implementation Plan submittal;</li> <li>- Periodic emissions reports from stationary source monitors;</li> <li>- Ambient air quality data and associated assurance data</li> </ul>	<ul style="list-style-type: none"> <li>- Lead control alarm/failure reports including fugitive dust control measures performed during failures</li> </ul>

## REFERENCES

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## REFERENCES

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